GEOGRAPHIC NEWS BULLETINS

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General Headquarters, Washington, D. C.

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Photograph by C. S. Carlsmith

A VOLCANO HAS FIRE AT ITS FINGERTIPS AS WELL AS AT HEART

Lava, the rock that floats and burns, can still ignite sticks of wood or scraps of paper long after it has cooled enough to be approached. It remains warm enough to steam in the rain for many months. A favorite stunt is to scorch a cane (above) over it for a souvenir. This lava, of the satin-smooth *paboeboe* type, is spreading from the active crater of Kilauea, near neighbor and close relative to Mauna Loa (see Bulletin No. 2).

HOW TEACHERS MAY OBTAIN THE BULLETINS

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Expedition To Study Sun's Eclipse in Asia

A JOINT expedition to observe the next total eclipse of the sun—scheduled to sweep across Asia on June 19, 1936—will be sent to Soviet Russia by Georgetown University and the National Geographic Society.

The expedition will travel halfway around the earth to make observations during the brief two and one-half minutes when the moon will come between the earth and the sun and temporarily turn day into night. Even so brief an observation of the sun is considered well worth while by astronomers because it gives them a rare opportunity to study the sun's corona—a halo of pearly light extending hundreds of thousands of miles outward from the sun but visible only during an eclipse when the rest of the sun's light is cut off.

Dr. McNally, of Georgetown, Is Leader

Dr. Paul A. McNally, S.J., of the Georgetown College Observatory, will be leader of the expedition, accompanied by five others to be chosen from the staffs of the University and The Society. They will leave sometime in April and return in July. Observations will be made from a point near Orenburg, Soviet Russia, because past weather records show that this region offers one of the best promises of clear weather along the whole path of the eclipse.

Headquarters of the expedition will be established near Orenburg, probably at the village of Sarà, which is very near the line along which the center of the moon's shadow will travel. Orenburg is about 775 miles southeast of Moscow.

This eclipse, first total eclipse of the sun to be visible on earth since that of February, 1934, will begin at sunrise in the Mediterranean Sea off the southwestern coast of the Grecian Peleponnesus. The moon's shadow, marking a path of totality about 50 miles wide, will sweep in a direction north of east across the Aegean Sea, Istanbul (Constantinople), and the Black Sea, will pass south of Rostov and Stalingrad, across Orenburg, and over Omsk and Tomsk in Siberia.

Will End in the Pacific

Moving over the northern tip of Lake Baikal, the path will curve south of east, over the northern portion of Manchutikuo (Manchukuo) and then over Khabarovsk and the northern portion of the Japanese Island of Hokkaido. Reaching Hokkaido late in the afternoon, the moon's shadow will pass out to sea and the eclipse will end in the Pacific Ocean a few hundred miles to the east at sunset.

The Governments of both Soviet Russia and Japan have extended cordial invitations to the scientific organizations of the world to send expeditions to their territories for observation of the eclipse.

Dr. McNally was the director of an expedition in 1932 sent by Georgetown University to Maine for the total eclipse of the sun observable there and obtained valuable experience in the unusually rapid photographic work which must be carried on during the brief period of darkness (see illustration, next page). The 1936 expedition will probably make use of a battery of four or five special cameras mounted so as to follow the apparent motion of the sun, photometers for making studies of changes in light intensity, spectrographs to study the sun's light, and instruments to note weather changes during the eclipse. The chief photographic objective will be the obtaining of pictures of the sun's corona.

The corona, which can be seen extending in vast streamers of pearly light around the edges of the sun when the black disk of the moon moves in front of it,

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Photograph by Frank C. Atherton

MOKUAWEOWEO, THE "BLOOD RED ISLAND" OF FIRE INSIDE MAUNA LOA'S CRATER, TAKES A NAP

The huge caldron here has its lid on, a flaky surface of solidified lava, 600 feet below the rim where the woman stands. Study of its behavior and misbehavior may indicate that sunspots affect volcanic activity. Reflections of lava seething in Mokuaweoweo tinge overhanging clouds with red, and they are pointed out with awe as the hovering ghost of Pele, Hawaiian fire goddess who inhabits volcanoes. Snow, however, is found at this great altitude (13,675 feet) as frequently as fire (see Bulletin No. 2).

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Mauna Loa, the World's Biggest Active Volcano

HAWAII has been in the midst of a private war—man against mountain!

Recently five big United States Army planes bombed the fiery sides of Mauna Loa, the world's most massive active volcano, whose lava flows have threatened the water supply and the town of Hilo, chief city of the island of Hawaii.

By "caging" it in a huge national park and supplying a government volcanologist who studies its habits and predicts activity with accuracy, Hawaii and the United States are trying to tame Mauna Loa.

Eruptions Have Claimed No Human Victims

Although no one is known to have been killed by this good-natured giant, whose "eruptions" are chiefly noise and the outpouring of molten rock, Mauna Loa can be counted on for about thirty major performances in a century. Mild tidal waves may precede these disturbances, earthquakes accompany them, and the rumbling rivers of lava may consume villages and forests, but the mouth of the volcano is so large that it can relieve internal pressure without violence.

Oblong Mauna Loa's gently rounded slopes form a giant turtle back, giving it the name of "Long Mountain." It rises 13,675 feet to dominate the south central portion of Hawaii, and is the most extensive of the big island's four major volcanoes, so huge that its "peak" is a plateau nearly five miles across (see map, next page).

If the sea should suddenly roll away and expose Mauna Loa like the moon's volcanic craters, which it resembles, a huge oval dome five miles high and at least 100 miles wide at its base on the ocean floor would be revealed. Ascent to the lofty top is gradual, visitors usually spending three days on a mule-back trip to the rim of the crater.

There is no necessity, however, to reach the crater in order to see the volcanic activity of Mauna Loa. The orange glow from fiery lava at night is sufficient for reading large print at Hilo on the coast, and for startling visitors at Honolulu, on the island of Oahu, 200 miles away.

While Mt. Etna or Mt. Vesuvius shows off by a giant explosion at the summit, Mauna Loa erupts quite differently. Lava boils up to the floor of the crater, enclosed by vertical walls dropping 600 feet inside the top of the mountain. A heavy crust of hardened lava lies like a lid on a chimney, blown off in steaming scarlet spots by gases. Pressure and gas explosions gash the mountainside with cracks several miles long, and tunneling through from the fiery core, lava pours forth in a row of flaming fountains. Seething geysers rise sometimes 400 feet into the air, turning deeper red as they cascade down the slope.

Lava is unique among rock formations, for it is simply glassy rock-foam, colored with iron deposits. Like other froth, it is very light in weight, even when solidified.

May-Pole Effect of Lava Streams

The first lava to gush from Mauna Loa's volcanic wounds is said to be always *A-A*, with smooth *pahoehoe* following. *A-A*, pronounced like an unsuccessful attempt to say "hot-hot," cools into bristling ragged clinkers of razor-edge sharpness, as irregular in size and shape as cinders, and as brittle as glass. Its name means "torn up by the roots," and its appearance justifies the name. *Pahoehoe*, almost the opposite, forms a cream-puff stream with a thin brittle crust. The center remains soft, flowing in terraces and cascades of satiny smoothness. When cool, its porous crust crunches underfoot like frozen snow. But for months its temperature underneath is most unsnowlike!

A gigantic network of cold lava covers Mauna Loa's upper surface, each rock-glacier with its characteristic color and fantastic formations. The result is a May-pole effect of bronze, pink, chocolate, gray, and greenish bands crossing and re-crossing each other through patches of glistening black. Towering cones of red and iridescent black glass, and caves lined with greenish stalactites or graceful ferns, dot the minor lava hills of the mountain's mighty flanks.

It is thus, with layer upon layer of lava, that the Hawaiian Islands are thought to have been built. Hawaii, youngest and largest of the eight major islands of the Hawaiian group, still is growing before the very eyes of observers who see Mauna Loa pour countless tons of rock-foam over the island. Several years ago a square mile of rock 100 feet high was produced in about two weeks. After years of weathering, lava breaks down into rich soil that supports luxuriant tropical vegetation, and sugar cane for commercial production.

The island-builder, according to ancient Hawaiian legend, is Pele, goddess of fire, who pitted Hawaii with craters while boring for a home which water couldn't reach. An everlasting feud is being waged between Pele and her savage sister, goddess of the sea. Seeing slender threads of glass formed when the wind cools thin jets of lava, children remark, "Pele's hair is

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is believed to be superheated vapor rising from the seething surface of the sun. Recently astronomers have found good evidence that it consists largely of oxygen, the life-supporting gas of the earth's own atmosphere.

Photographs taken during the eclipse, timed with great exactness, will give astronomers a chance to "hold a stop watch" on the movements of the solar system and see if it is "running on schedule." Movements of the sun, moon and planets in relation to one another are predicted with extreme accuracy by astronomers, but the predictions can be checked only when two heavenly bodies pass each other, as in the case of an eclipse.

Note: Additional material about Orenburg, U.S.S.R., and previous eclipses of the sun will be found in the following: "Observing a Total Eclipse of the Sun" and "Photographing the Eclipse of 1932 from the Air," *National Geographic Magazine*, November, 1932; "Russia of the Hour," November, 1926; "Interviewing the Stars," January, 1925; "Western Siberia and the Altai Mountains," May, 1921; and "Helium, the New Balloon Gas," May, 1919.

The path of the eclipse, from the Mediterranean to the Pacific, can be traced on the Map of Asia, issued as a supplement to the *National Geographic Magazine*, December, 1933. Additional copies of this map may be secured, postage paid, for 50 cents (paper) and 75 cents (linen).

Bulletin No. 1, January 20, 1936.

Photograph by Charles Martin

HE HITCHES HIS CAMERAS TO THE SUN

Dr. Paul A. McNally stands at the right of a battery of cameras turned by a motor to keep in constant adjustment to the sun. The Geographic-Georgetown expedition may furnish additional information about the reaction of gases to the sun's tremendously high temperatures. This equipment in Fryeburg, Maine, photographed the sun's eclipse in 1932.

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Engineering Accomplishments of 1935

DYNAMITE and steamshovels, dredges, riveting "guns," concrete mixers, picks and shovels—these, plus the hands of hundreds of thousands of men, have changed the face of the world noticeably during 1935.

Premier engineering event of 1935 was the completion of Boulder Dam across the Colorado River between Nevada and Arizona. Other projects of major importance finished during the year included: the bridging of the Mississippi River near New Orleans, and of the "Little Belt" in Denmark between Jutland and the Island of Fyn; electrification of the Pennsylvania Railroad between New York and Washington; changing to standard gauge of 150 miles of the Chinese Eastern Railway between Harbin and Hsinking; a ship canal in Russia connecting the Baltic and White Seas; the completion of a highway between the Texas border and Mexico, D. F.; opening of the Moscow subway system; and the placing into service of the world's largest steamship, *Normandie*.

Boulder Dam 726 Feet High

The huge solid block that constitutes Boulder Dam and bars the Colorado River contains 4,500,000 cubic yards of reinforced concrete. It rises 726 feet and is thus the highest dam in the world. Work is still in progress on the power house below the dam, and it is not expected to be in operation for at least a year.

The water supply for the Panama Canal locks during the dry months was improved by the completion in June of the Madden Dam. At Alma, Wisconsin, another of the twenty-six dams to be built across the upper Mississippi River to improve navigation was completed in September, bringing the total completions to five (see illustration, next page).

Construction of three great dams in the Northwest was in progress: Bonneville Dam, across the Columbia River near Portland, Oregon; Grand Coulee Dam, also on the Columbia in north central Washington; and Fort Peck Dam, on the Missouri River in Montana. Two dams in the Tennessee Valley, the Norris and the Wheeler, are nearing completion.

Noteworthy among the canals completed during the year is the Stalin Canal, connecting the Baltic Sea, near Leningrad, with the White Sea not far from Archangel. The waterway cuts the water trip between Leningrad and Archangel from 2,840 to 647 miles.

An important 20-mile section of the 70-mile Albert Canal between Antwerp and the Meuse River was completed in May. The Juliana Canal, 21½ miles in length, along the Netherlands bank of the Meuse River, between Maastricht and Maasbracht, was opened September 16.

In the United States, a ship canal in Texas connecting Brownsville, on the lower Rio Grande, with Port Isabel, on the Gulf of Mexico, is nearing completion; excavation for the All American Irrigation Canal to carry Colorado River water to the Imperial Valley of California is in progress; and preliminary work is under way on the 195-mile ship canal planned to extend across northern Florida from Jacksonville to Port Inglis.

Mississippi Bridged near New Orleans

Most important of American bridges to reach completion was that over the Mississippi River, three and one-half miles upstream from New Orleans. The New Orleans span—officially the Huey P. Long Bridge—has railway tracks, highway lanes, and footpaths.

Western Europe's outstanding bridge of the year was completed in Denmark to connect Jutland and the Island of Fyn. It spans the body of water known as the "Little Belt." The structure, of the cantilever type, is 3,916 feet long and is a railway and highway bridge.

An even longer bridge, for use of a railway, was opened over the Volga River at Saraton, Soviet Russia. It is 5,220 feet long. Romania and Soviet Russia, unconnected by rail since shortly after the Russian revolution, were linked again by the opening of the Dniester River railroad bridge near Tighina, Romania, October 18.

The Ile d'Orleans, a 22-mile-long island in the St. Lawrence River opposite Quebec, was connected with the city in September by a new 2,370-foot bridge. The Seine was spanned by a concrete arch bridge near La Roche-Guyon, 40 miles on an airline below Paris. A bridge across the Sabi River, Southern Rhodesia, one of the largest single span structures in the world, was opened December 20.

Among other bridges of more than local importance completed in the United States were: a highway bridge carrying the Lincoln Highway across the Juniata River, near Bedford, Pennsylvania; two highway bridges over the Niagara River in the region between Buffalo and Niagara Falls; two highway bridges over the Cape Cod Canal, at Bourne and Sagamore, Massachusetts; and a railway bridge over the canal near Buzzards Bay.

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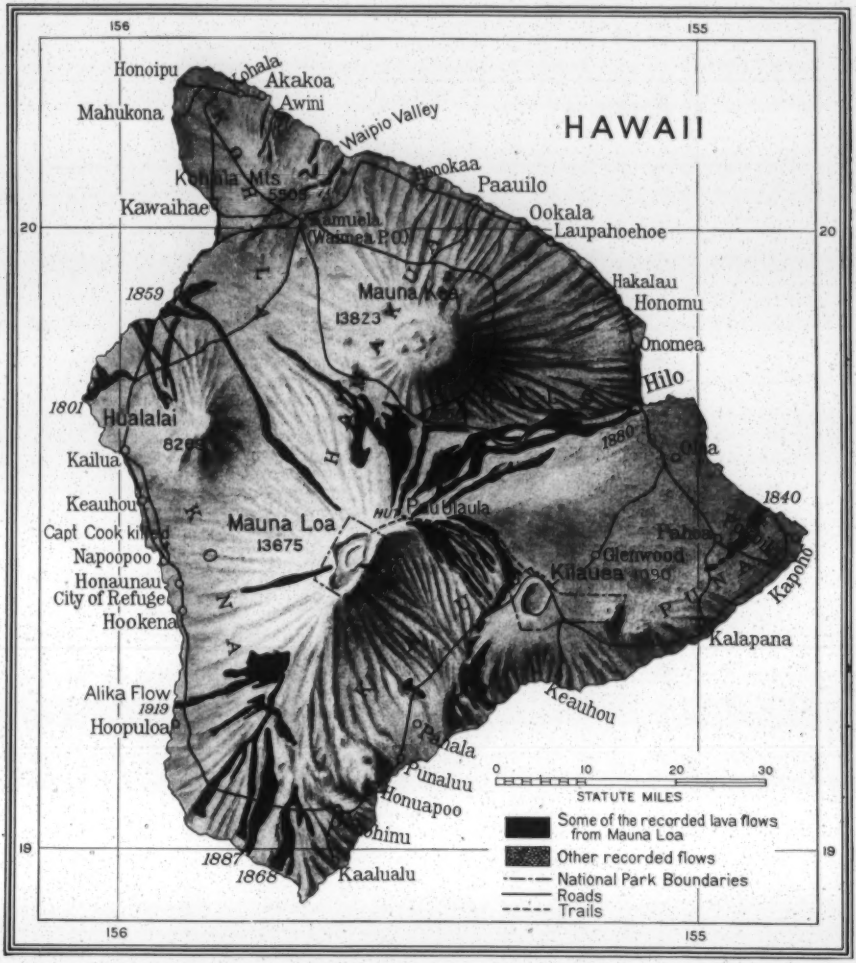
blowing today." Natives, whose ancestors a century ago used to offer the fierce goddess gifts of berries and money as bribes for safety, are still terrified when Mauna Loa "opens a door in its side to let Pele out."

Hawaii National Park, the government's volcano zoo, is divided into three sections. Mauna Loa's portion is supplied with rest house and a mule trail for the convenience of visitors. Halfway down its southeast shoulder bubbles the fire-pit Kilauea, with a museum, a laboratory, and grandstand seats in Volcano House, the famous hotel visited by Mark Twain, Jack London, and Robert Louis Stevenson. The third section, located on the Island of Maui, surrounds the world's greatest known dormant volcano, Haleakala, whose crater has recently been made easily accessible by a modern automobile highway.

Note: Students preparing units of work about the Hawaiian Islands will find additional material in the following: "My Flight from Hawaii," *National Geographic Magazine*, May, 1935; "Our Conquest of the Pacific," October, 1928; "The Columbus of the Pacific (Captain James Cook)," January, 1927; "Bird Life Among Lava Rock and Coral Sand," July, 1925; "The Hawaiian Islands," February, 1924; "The Causes of Earthquakes," October, 1923.

Bulletin No. 2, January 20, 1936.



Drawn by A. H. Bumstead

THE ISLAND THAT VOLCANOES BUILT

Mauna Loa's recent outburst followed the course of the 1855 flow (center of map). A river of lava in 1926, not mapped here, wiped out the village of Hoopuloa (lower left) and poured into the Pacific.

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Chinese New Year's Day, a Seven-in-One Holiday

NEW YEAR'S DAY comes twice a year in China. Out of courtesy to that newcomer from the West, the "sun-calendar," which guides the government in dating its bonds and documents, government offices and schools observe a New Year's holiday on January 1. For most of China's millions, however, the real Chinese New Year's Day comes this year on January 24.

The Chinese lunar calendar year begins on a variable date which, like our Easter, meanders back and forth through three months, according to the fickle moon. The year's first thin silver crescent may appear at any time from January to March, but always it is welcomed with the Feast of the Three Beginnings—of the year, the month, and the day.

A Year's Holidays Condensed into Two Weeks

When four hundred million people take a holiday all at the same time, it has to be a big one. New Year's Day for the Chinese opens two whole weeks of merry-making, so thorough that it suffices them for the rest of the year.

This omnibus holiday combines elements which in the United States would be distributed over seven occasions. With the familiar New Year's Eve watch parties and welcoming noises are associated family reunions, decorations, and gift-giving as at Christmas; the feasting of Thanksgiving; the firecrackers and rockets of the Fourth of July; the relaxation of summer vacation; the fashion parade of Easter; and the financial frenzy, both in spending and in feverish debt-juggling, of a universal pay-day.

Moreover, New Year's Day in China is everybody's birthday. On that day, instead of on anniversaries of birth, four hundred million people automatically become a year older.

During this red-letter holiday everyone literally sees red—everywhere. Houses are festooned with thin, geranium-red paper scrolls, inscribed with texts from the classics. Streets are littered with scarlet wreckage of firecrackers. Crimson lanterns in carved black frames, shaped like flowers, butterflies, birds, and animals, swing from door posts. Gifts are exchanged, wrapped in red striped paper or economically tied in brown wrappings decorated with a little strip of red. Big fragrant peonies, in all shades from pink to maroon, decorate homes of the wealthy. Busy hothouses force their blooms for the gala occasion.

Everyone Pays Debts

During the year's last weeks, the "pepper month," the business merry-go-round is speeded by an almost universal payment of debts. "Both a borrower and a lender be" would seem to be an unwritten financial law, and truly everyone has lent money to all those he doesn't owe some to. Even children have bartered toys and food, perhaps as much in a willingness to share as to profit. Since the man who doesn't discharge all debts by New Year's Day can hope for no credit during the ensuing year, every effort is made to obtain money. Men temporarily turn brigands and gamblers "to save their reputations," for a creditor asks no questions about the money he receives.

The New Year's Eve midnight feast provides the only meat which many can afford during the entire year. It is so extensive that everyone sleeps late on New Year's Day before starting the two week's round of social calls that brings all business to a standstill.

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Turkey and Eastern Asia continued during 1935 to be among the foremost builders of new railways. The Irmak-Filyas line, more than 200 miles long, was completed in Anatolia (Turkey). In the region of Diyarbekir, in southeastern Anatolia, more than a hundred miles of new railway was completed. It is planned to extend this railroad to the Iran border. In western Anatolia a north-south section of trackage was completed from Afyon to Isparta, only 60 miles short of the Gulf of Adalia (Antalya).

In Manchutikuo the network of rails continued to grow. Notable additions were: a 150-mile section of track from Taheiho, on the Amur River, southward to Peianchen, connecting north central Manchutikuo with Tsitsihar and Harbin; and a section extending between Hsinking in central Manchutikuo to Taoan 200 miles to the northwest.

Although details of the work have not been made public, reports persisted during the year that double-tracking of the Trans-Siberian Railway between Chita and Khabarovsk had been completed, and that the construction of a new railway paralleling the Trans-Siberian, several hundred kilometers to the north, was progressing rapidly.

Greatest railway transaction of the year was the sale and delivery, March 23, of Russia's half interest in the Chinese Eastern Railway, to Manchutikuo. The price was $39,200,000, one-third in cash, and two-thirds in goods over a period of three years, Japan guaranteeing payment. After the sale, the name of the line was changed to the North Manchuria Railway.

Electrification of railways previously operated by steam proceeded in several countries. Electrification of the Pennsylvania Railroad between New York and Washington was completed early in the year and the first electric passenger trains were operated between the two cities February 10. Twenty-eight kilometers of electrified railroad was placed in use between Voss and Eiede (Granvin), Norway. In southern Austria 78 kilometers of rail was electrified and opened for use May 13. In Germany, 137 kilometers, between Augsburg and Nuremberg, was inaugurated May 15.

Ambitious tunnel projects planned and under construction were many, but few important bores were completed during the year. The newest Hudson tube at New York City was "holed through" August 2, but it will not be completed for two years. It extends between 39th Street, Manhattan, and Weehawken, New Jersey.

Pacific slope water was brought through the Continental Divide to the Atlantic side, in Colorado, as the result of the completion of a tunnel, February 4, near Leadville.

Gaduk Tunnel, Iran, 6,923 feet high and about three kilometers long, highest and longest tunnel on the Trans-Persian Railway, was completed. In Madagascar, the Tatamaly Tunnel, on the new railway between Fianarantsoa and the east coast, was completed.

The long awaited highway from the Texas border to Mexico, D. F., was finished toward the end of the year, but three bridges remain to be completed. Ferries are now in use.

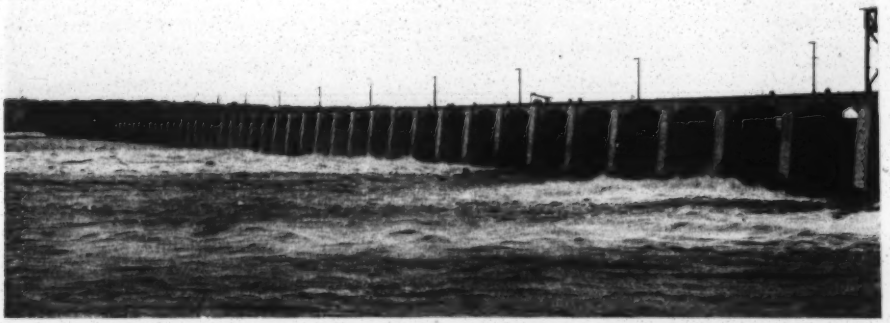
About 200 miles of new motor speedways were opened in Germany. A new road over the Elburz Mountains in the most direct route from Tehran to the Caspian Sea, was opened early in the year. Several hundred miles of highway, in addition to thousands of miles of military roads, were constructed by Italians in Eritrea and Italian Somaliland.

Opening in China of the Shanghai-Wusih road gave Shanghai its first direct highway route to Nanking.

Additions to the subways of the world included the first seven and one-half miles of the Moscow system, opened formally May 15; a three and one-half mile subway in Newark, New Jersey, put into operation May 27; the Houston-Essex Street line of the Independent Subway in New York City, opened January 1, 1935.

The second largest telescope in the world, with a 76-inch mirror, was put into use May 31, at David Dunlap Observatory, at the University of Toronto, Canada.

Bulletin No. 3, January 20, 1936.



Photograph by H. M. Anschutz

THE MISSISSIPPI GETS INTO HARNESS

To make the river more navigable, five dams have been completed, similar to this one, nearly a mile long, between Hamilton, Illinois, and Keokuk, Iowa.

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World's "Blind Spots" Shrink as Result of 1935 Explorations

A FEW more of the world's fast dwindling "blind spots" were explored or mapped during 1935.

The geological party of the second Byrd Antarctic Expedition completed in January, 1935, a 1,410-mile sledging trip which penetrated into Antarctica to within 180 miles of the South Pole, discovering extensive coal deposits within 200 miles of the pole.

Byrd and his party returned to the United States on May 7, 1935.

Nineteen New Peaks Found in Yukon

Bradford Washburn, leading the National Geographic Society Yukon Expedition, explored and mapped 2,000 square miles of previously unknown region in the southwestern corner of Yukon Territory, Canada, discovering nineteen new mountain peaks more than 10,000 feet high, and a number of extensive glaciers. Two of the newly discovered mountains were named for King George and Queen Mary of Great Britain in honor of their jubilee year.

Mount Steele, Yukon Territory, Canada, 16,439 feet high, was scaled August 15, by Walter Wood. An airplane journey of 4,000 miles by Dr. Charles Camsell in northwestern Canada disclosed that the Rocky Mountains come to an end in a plateau north of the Laird River at 60 degrees north latitude.

A low, narrow island, one mile long, was discovered January 6, 1935, in the Timor Sea approximately 600 miles northwest of Broome, Australia.

A waterfall, estimated to have a drop of more than 1,000 feet, was discovered last summer from an airplane, by Penny Rogers, in the Chirripo Mountains of Costa Rica.

A previously uncharted sub-sea peak, rising from a depth of 20,000 feet to within 300 feet of the surface of the Atlantic, was discovered near the Madeira Islands by a French cable repair ship.

Underwater Mountains in Bering Sea

An underwater range of mountains, some rising almost sheerly for 11,000 feet, was discovered in Bering Sea, between the Aleutian and Pribilof Islands, by an American cutter.

Previously unknown islands were discovered by Russian expeditions in Arctic waters north of Siberia. Ushakoff Island was found September 1, by the ice-breaker *Sadko* about midway between the northern end of North Land (formerly Nicholas II Land) and Graham Bell Island. A week later the *Sadko* discovered three additional islands to the eastward.

A hitherto unknown agricultural people, the Tari Furora, light brown and with certain Asiatic characteristics, was discovered early in 1935 in previously unexplored territory in the interior of New Guinea by H. G. Hides, an assistant resident magistrate, during a patrol trip (see illustration, next page).

A pygmy tribe was discovered in July in a mountainous region of Annam, French Indo-China.

An expedition into the Gobi Desert of Mongolia, led by Professor Nicholas Roerich, brought out a collection of 300 drought-resistant plants.

An expedition headed by Dr. Otto Geist obtained from St. Lawrence Island, in Bering Sea, skeletal remains believed to bear on the migration of man from

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Served in courses, the feast includes many varieties of sweets as well as more substantial stews. Macaroni in strands two or three yards long is eagerly devoured to insure long life. Meat and vegetables are chopped fine and delicately seasoned, to make the feast memorable for quality as well as quantity. Hardly a pig, duck, chicken, or fish in the Republic is safe until every family is provided with holiday meat, including even little pickled fish hardly larger than pins. Sticky rice dumplings are as popular as plum pudding in England, and rice flour cakes are fried in huge numbers days in advance. When the final dish of the banquet is served, satisfaction and etiquette both dictate that it must be refused.

Throughout the holiday season tables are covered with generous bowls of fruits, cakes, and sweets. All callers are invited to partake of melon seeds, plums, peeled oranges, lichee nuts, almonds, shredded bamboo, and sugared dates and ginger. "Old" eggs, hardboiled and preserved for years, are consumed with relish, along with countless cups of tea. In place of ivory chopsticks and porcelain spoons, some hosts now provide knives and forks.

To make certain of funds sufficient to pay debts and buy holiday supplies, many Chinese join New Year Societies, which resemble the Christmas Savings clubs of American banks.

Note: For additional photographs and material about Chinese life see "Coastal Cities of China" and "Peiping, City of Dust and Color (color insert)," *National Geographic Magazine*, November, 1934; "The Glory That Was Imperial Peking," June, 1933; "Here in Manchuria," February, 1933; "From the Mediterranean to the Yellow Sea by Motor," November, 1932; "Cosmopolitan Shanghai, Key Seaport of China" also "Macao, 'Land of Sweet Sadness'," September, 1932; "How Half the World Works," April, 1932; Byroads and Backwoods of Manchuria," January, 1932; "Manchuria, Promised Land of Asia," October, 1929; "Among the People of Cathay," June, 1927; "Farmers Since the Days of Noah," April, 1927; and "Scenes in the Celestial Republic," February, 1926.

Bulletin No. 4, January 20, 1936.

Photograph by Eugene Lee Stewart

A DRAGON PARADE BRIGHTENS THE CHINESE NEW YEAR

During the gay New Year's fortnight, the Chinese give lanterns to all their friends, and at its close comes the Feast of Lanterns. Parades are often led by elaborate lantern structures in the shape of huge dragons attended by cranes, doves, tiger's heads, and numerous other animals and flowers. This procession at Hailar, Manchutikuo, is typical of the almost universal celebration.

Asia to America. A 200-mile canyon on the San Juan and Colorado Rivers was explored, and 3,000 square miles of territory mapped, by expeditions sent out by the United States National Park Service.

The first geological and photographic survey of the Salmon River Canyon, Idaho, was made by an expedition sent by the National Geographic Society.

Note: An article about the Yukon Expedition has been written by Bradford Washburn and will be published in the *National Geographic Magazine* some time in 1936.

See also "Exploring the Ice Age in Antarctica" and "By Motor Trail Across French Indo-China," October, 1935; "Madeira the Florescent," July, 1934; "Explorations in the Gobi Desert," June, 1933; "Into Primeval Papua by Seaplane," September, 1929; "Beyond the Clay Hills," March, 1924; "Costa Rica, Land of the Banana," February, 1922; and "Valley of Ten Thousand Smokes," January, 1917.

See also in the GEOGRAPHIC NEWS BULLETINS: "National Geographic's Expedition Explores Idaho's 'Grand Canyon'," week of December 16, 1935.

Bulletin No. 5, January 20, 1936.

NOTE TO TEACHERS

Back copies of several recent issues of the GEOGRAPHICAL NEWS BULLETIN are exhausted. Hence requests from teachers who wish their files complete cannot always be filled. A lapse in your receipt of THE BULLETIN may be avoided by sending your renewal remittance of 25 cents promptly when you are notified that your subscription is expired. Because these Bulletins represent a substantial gift to schools from the National Geographic Society's educational fund, the expense of advertising or circulation promotion cannot be undertaken as would be the case with a commercial publication. The Society must rely upon supervisory officials and teachers to call them to the attention of their colleagues who might use them to advantage in their geography, social sciences, and literature classes.

Photograph by Capt. Frank Hurley

NEW GUINEA IS AN ANIMATED MUSEUM OF RACIAL TYPES

This Papuan, making a net from palm fiber and weighting it with shells, has negroid features. His relatives may vary in color from brown to deep black. The newly discovered inland tribe has light brown skin and Asiatic characteristics.